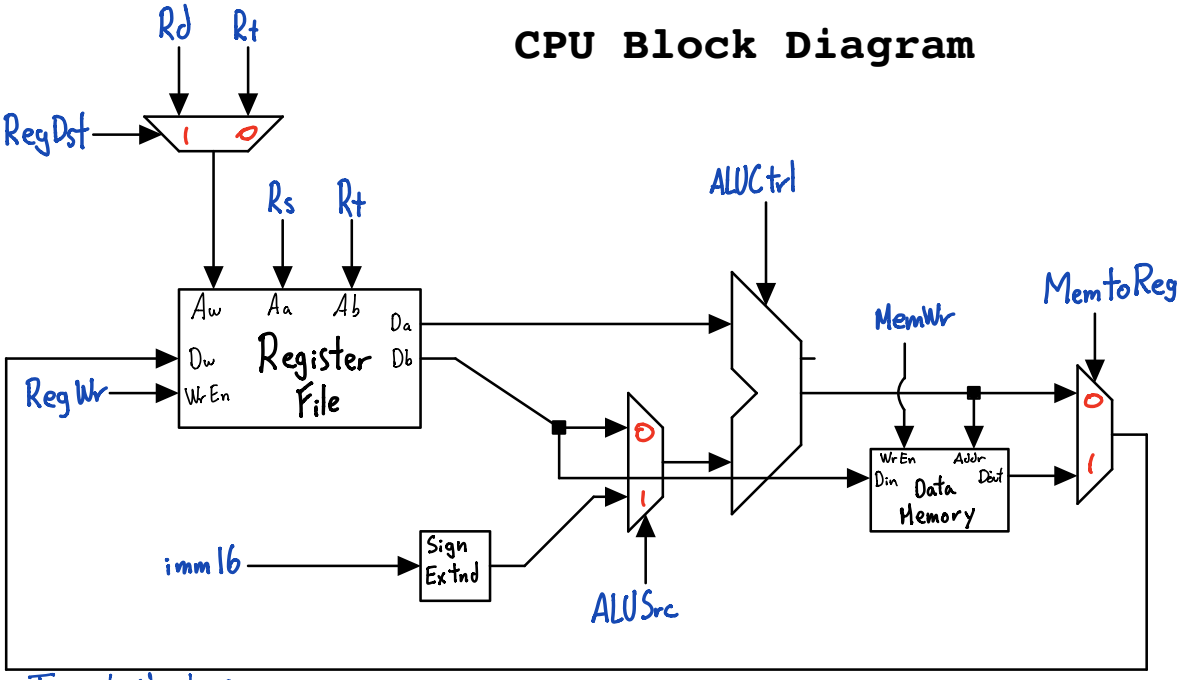
CPU Block Diagram



Triangle Numbers

Step	RegDst	Rd	Rt	Rs	RegWr	imm16	ALUSrc	ALU Ctrl	MemWr	MemReg
0	1	$a0	$zero	0x21	1	0	0	addi	0	0
1	1	$t0	$zero	0x00	1	0	0	addi	0	0
2	1	$t1	$zero	0x00	1	0	0	addi	0	0
3	0	✱	$t1	$t0	1	0	0	add	0	0
4	?.	✱	$t1	$a0	?	0	0	beq	0	0
5	1	✱	$t0	0x01	1	0	0	addi	0	0
6	?.	?.	?.	?.	?.	0	0	j	0	0
7	0	✱	$t1	$t0	1	0	0	add	0	0
8	?.	✱	$t1	$a0	?	0	0	beq	0	0
9	1	✱	$t0	0x01	1	0	0	addi	0	0
10	?.	?.	?.	?.	?.	0	0	j	0	0
11	0	✱	$t1	$t0	1	0	0	add	0	0
12	?.	✱	$t1	$a0	?	0	0	beq	0	0
13	1	✱	$t0	0x01	1	0	0	addi	0	0
14	?.	?.	?.	?.	?.	0	0	j	0	0
15	0	✱	$t1	$t0	1	0	0	add	0	0
16	?.	✱	$t1	$a0	?	0	0	beq	0	0
17	1	✱	$t0	0x01	1	0	0	addi	0	0
18	?.	?.	?.	?.	?.	0	0	j	0	0
19	0	$a0	$zero	$t0	1	0	0	add	0	0
20	0	$v0	$zero	0x01	1	0	0	addi	0	0
21	0	$v0	$zero	0x0A	1	0	0	addi	0	0

step

SYSCALL

The 4 steps labeled "step" on the left would be repeated every time the triangle number increases by one degree. Also, the blue question marks would eventually be replaced when the CPU block diagram supports branching and jumping, so now we are leaving them as blue question marks for now.